

Aim:

Write a program to find the **power** of a given number using recursion process.

At the time of execution, the program should print the message on the console as:

Enter a number :

For example, if the user gives the **input** as:

Enter a number : 5

Next, the program should print the message on the console as:

Enter power :

For example, if the user gives the **input** as:

Enter power : 4

then the program should **print** the result as:

5 to the power of 4 is : 625

Note: Write the recursive function **power()** in **Program905a.c**.

Source Code:**Program905.c**

```
#include <stdio.h>
#include "Program905a.c"
void main() {
    int m, n;
    printf("Enter a number : ");
    scanf("%d", &m);
    printf("Enter power : ");
    scanf("%d", &n);
    printf("%d to the power of %d is : %d\n", m, n, power(m, n));
}
```

Program905a.c

```
int power(int x,int y);
int power(int x,int y)
{
    if(y==0)
        return 1;
    else
        return (x*power(x,y-1));
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter a number : 3
Enter power : 4
3 to the power of 4 is : 81

Test Case - 2
User Output
Enter a number : 4
Enter power : 3
4 to the power of 3 is : 64